

## REMARKS

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended.

Claims 1 to 33 are pending in the application. Claims 34 and 35 have been canceled. Claims 1 to 33 were rejected. Claims 1, 7, 15, 18, 19, and 33 are amended herein.

### Rejections Under 35 USC 112, second paragraph

Claims 1, 7, 15, and 33 were rejected under 35 USC 112, second paragraph as being indefinite because the Examiner found the claim terminology reciting “each subsystem connected solely to each other subsystem using a respective one of the plurality of interconnection lines” to be unclear. The Examiner erroneously assumed the phrase “connected solely to” meant “at least connected to,” which is incorrect because this is precisely opposite the meaning that was intended. In addition, it appears that the Examiner read the phrase “each subsystem connected solely to each other subsystem” to mean that the only element a subsystem is connected to is another subsystem. That is an incorrect interpretation. What Applicants were trying to convey is that, for any pair of subsystems, the sole connection between them is a respective interconnect line of a respective one of the plurality of power source regulated buses. This can be further understood in connection with reference to FIGs. 2 (which shows the entire power architecture in which the common power source and each subsystem resides) and FIG. 3 (which illustrates more details about the common power source of FIG. 2), as well as the accompanying specification text at page 4, line 7 through page 5, line 6. As FIG. 2 clearly shows, there is only a single interconnect between any two subsystem components and between a subsystem component and the common power source.

To further clarify this, Applicant have amended claim 1 to recite (in pertinent part, emphasis added):

A power system common power source subsystem comprising:  
a power source unregulated bus;

a plurality of power source regulated buses, each respective power source regulated bus comprising a plurality of independent interconnection lines to connect a plurality of subsystems to each other and to a common power source, the plurality of power subsystem components comprising  $k$  subsystem components, **wherein each subsystem is connected to each other subsystem solely via a respective one of the plurality of interconnection lines of a respective one of the power source regulated buses**, such that the plurality of interconnection lines comprises no more than  $k * [(k-1)/2]$  interconnection lines;

Note also that applicants have further clarified that the maximum number of interconnect lines, where there is only one interconnect between any two elements, is necessarily limited by the number of elements. This is also supported by the specification as filed, by a preliminary amendment filed with an earlier office action response. Mathematically, this limitation also will be readily understood by those of skill in the art. Claims 7, 15, 18, 19 and 33 were amended with similar language (although claims 18 and 19 were not rejected under 35 USC 112, second paragraph, because these claims contain similar language, they were amended similarly for consistency).

Applicant have amended Claims 1, 7, 15, 18 and 19 and submit that Claims 1, 7, 15, 18 and 19 are now proper under 35 U.S.C. §112, second paragraph. For at least the above reasons, Applicant respectfully request that this rejection be withdrawn.

#### Rejections Under 35 USC 102.

The Examiner rejected Claim 33 under 35 U.S.C. §102 as being anticipated by Williams et al. Claim 33, as amended herein, recites [emphasis added]:

A power system comprising:

- at least one common power source component having a first interconnect with a plurality of power connections;

- a plurality of power system subsystem components, the plurality of power subsystem components comprising  $k$  power subsystem components, each one of the plurality of power system subsystem components having a second interconnect with a plurality of power connections, **wherein each one of the second interconnects connects to the first interconnect of the at least one common power source component solely via a respective power connection and each one of the second interconnects connects to a respective second interconnect of each other one of the plurality of power subsystem components solely via a respective power connection, such that the plurality of power connections comprises no more than  $k * [(k-1)/2]$  power connections;**

- each one of the plurality of power connections of the first interconnect comprising a connection to a plurality of subsystem regulated buses and comprising a connection to subsystem unregulated buses; and

- each one of the plurality of power connections of the second interconnect comprising a connection to at least one of the plurality of subsystem regulated buses and comprising a connection to the subsystem unregulated bus.

Williams fails to teach or suggest each and every limitation of amended claim 33. For example, Williams fails to teach, suggest, or illustrate that, for  $k$  subsystem components, the plurality of power connections comprises no more than  $k * [(k-1)/2]$  power connections. Williams similarly fails to teach, suggest, or illustrate a plurality of subsystem regulated buses, as shown and described in claim 33, as amended.

For at least the above reasons, Applicant maintains that claim 33 is patentable over Williams, and Applicant respectfully requests that the rejection under 35 USC 102 over Williams be withdrawn.

#### Rejections Under 35 USC 103

The Examiner rejected Claims 1-32 under 35 U.S.C. §103(a) as being unpatentable over Siewert et al. (U.S. Patent number 5,892,299) in view of Hart (U.S. Patent number 6,236,949) and Cole et al. (U.S. Patent number 2,135,250).

Applicants have amended the claims to more precisely claim the invention and to distinguish the present invention over the cited art. First, regarding independent claims 1, 7, 15, and 18, unlike the common bus as taught by Siewert, Applicant's system teaches a **plurality of power source regulated buses**, each respective power source regulated bus having a plurality of independent interconnection lines to connect a plurality of subsystems to each other and to a common power source, the plurality of power subsystem components comprising k subsystem components, **wherein each subsystem is connected to each other subsystem solely via a respective one of the plurality of interconnection lines of the power source regulated bus, such that the plurality of interconnection lines comprises no more than  $k*(k-1)/2$  interconnection lines**, which is not taught or suggested by the combination of Siewert, Hart, and Cole.

First, the Examiner alleges that the power source regulated bus of claim 1 corresponds to a "bus 1220" of FIG. 11 of Siewert. FIG. 11 of Siewert does not illustrate any such bus 1220, although it does illustrate a DC buss 1140. FIG. 12 of Siewert does illustrate a bus 1220; hence Applicant assumes that the Examiner made an inadvertent error in the rejection and intended instead to refer to FIG. 12. The Examiner contends that the isolation devices 500 and the sets of protected electrical equipments (PEES) 1110 1 to J correspond to the subsystems of claim 1. (That is, he defines each subsystem as including both the isolation device 500 and a respective PEES 1110) The Examiner contends that the interconnection lines correspond to each interconnection between a respective isolation device 500 and the bus 1220.

Note that claim 1, as amended, specifically requires that there be a **plurality** of power source regulated buses. Examples of this are illustrated in FIGs. 2 and 3 of the instant application and its associated description in the Specification on page 2, line 7 through page 5, line 6. In FIG. 2, for example, each connection to a subsystem is itself a regulated bus. In FIG. 3, as it is specifically recited at page 4, line 29 through page 5, line 1, "The output of each regulator 118 is connected to regulated buses of all subsystems as well as the regulated bus 114

of the common source. As an alternative, the common regulated bus 114 may be connected to one or more regulated buses of individual subsystems.” Thus, the invention of claim 1 recites a plurality of power source regulated buses, in sharp contrast with the single power source regulated bus 1220 of Siewart’s FIG. 12 (which the Examiner has contended is equivalent).

Note also that, claim 1, as amended, recites that, for a system with  $k$  subsystem components, there will be no more than  $k \cdot [(k-1)/2]$  interconnection lines in total. Siewart does not teach or suggest this limitation at all, and Applicant fails to see how any of the Figures in Siewart teach or suggest this limitation.

Neither Hart nor Cole compensates for the deficiencies in Siewart, and neither reference teaches or suggest the plurality of power source regulated buses limitation or the limitation as to the total number of interconnection lines.

Thus, for at least the reasons listed above, Applicant maintains that claim 1 is patentable over the references of record, taken alone or in combination. Independent claims 7, 15, and 33 and dependent claims 18 and 19 were amended similarly to the amendments made to claim 1, to add similar limitations as that of claim 1 on connection lines to be related to the number of components, and Applicant maintains that these references are likewise patentable over the references of record, taken alone or in combination, for at least the same reasons that claim 1 is patentable.

As Claims 2 through 6 depend from allowable Claim 1 and cite additional structure, they too are allowable for analogous reasons. As Claims 8 through 14 depend from allowable Claim 7 and cite additional structure, they too are allowable for analogous reasons. In addition, as Claims 16 and 17 and 20 through 32 depend from allowable Claim 15 and cite additional structure, they too are allowable for analogous reasons.

Thus, for at least the reasons given above, Applicant maintains that pending claims 1-33 are allowable over the art of record, taken alone or in combination. Applicant respectfully requests that the rejection of these claims be withdrawn.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Response or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-0845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

Accordingly, re-examination and reconsideration are requested in view of the above amendment and remarks.

Respectfully submitted,

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